Claims

1. An in vitro method for inhibiting the propagation of an undesired cell population, the method comprising
   (i) introducing an antagonist of SGT into at least one cell of said cell population,
   and
   (ii) cultivating said cell population for a time period sufficient to allow said SGT antagonist to be effective, thereby inactivating and/or depleting SGT in said cell population.

2. The method according to claim 1, wherein the cell population is in the mitotic stage.

3. The method according to claim 1, wherein the cell population is in a resting stage.

4. The method according to any of claims 1 to 3, wherein the cell population is a population of human cells.

5. The method according to any of claims 1 to 4, wherein the SGT antagonist is selected from the group consisting of a SGT-specific siRNA, a transcriptional regulator of the SGT gene, a SGT gene antisense molecule, a SGT mRNA specific ribozyme, an antibody against a SGT polypeptide, a SGT-specific aptamer and a SGT-specific mutein.

6. The method according to claim 5, wherein the SGT antagonist is a SGT-specific siRNA.

7. The method according to claim 6, wherein the siRNA comprises a sequence as defined by SEQ ID NOs:3 and/or 4.

8. Use of an SGT antagonist for the manufacture of a medicament for the treatment of a disease which is caused by the propagation of an undesired cell population.

9. The use according to claim 8, wherein the disease which is caused by the propagation of an undesired cell population is a cancer disease.

10. The use according to claim 9, wherein the cancer disease is selected from the group consisting of neuroblastoma, intestine carcinoma, rectum carcinoma, colon carcinoma, familiary adenomatous polyposis carcinoma and hereditary non-polyposis colorectal cancer, esophageal carcinoma, labial carcinoma, larynx carcinoma, hypopharynx carcinoma, tong carcinoma, salivary gland carcinoma, gastric carcinoma, adenocarcinoma, medullary thyroid carcinoma, papillary thyroid carcinoma, follicular thyroid carcinoma, anaplastic thyroid carcinoma, renal carcinoma, kidney parenchym carcinoma, ovarian carcinoma, cervix carcinoma, uterine corpus carcinoma, endometrium carcinoma, chorion carcinoma, pancreatic carcinoma, prostate carcinoma, testis carcinoma, breast carcinoma, urinary carcinoma, melanoma, brain tumors, glioblastoma, astrocytoma, meningioma, medulloblastoma and peripheral neuroectodermal tumors, Hodgkin lymphoma, non-Hodgkin lymphoma, Burkitt lymphoma, acute lymphatic leukemia (ALL), chronic lymphatic leukemia (CLL), acute myeolid leukemia (AML), chronic myeloid leukemia (CML), adult T-cell leukemia lymphoma, hepatocellular carcinoma, gall bladder carcinoma, bronchial carcinoma, multiple myeloma, basalioma, teratoma, retinoblastoma, choroidea melanoma, seminoma, rhabdomyosarcoma, craniopharyngeoma, osteosarcoma, chondrosarcoma, myosarcoma, liposarcoma, fibrosarcoma, Ewing sarcoma and plasmocytoma.

11. The use according to claim 10, wherein the cancer disease is cervical carcinoma, neuroblastoma, glioblastoma and/or breast carcinoma.

12. The use according to any of claims 8 to 11, wherein the SGT antagonist is a SGT-specific siRNA.

13. A medicament containing a SGT antagonist, optionally together with a pharmaceutically acceptable carrier, for the treatment of a disease caused by the propagation of an undesired cell population.

14. The medicament according to claim 13, wherein the disease is a cancer disease.

15. A method for screening candidate compounds for at least one SGT antagonist with the ability to inhibit the propagation of a cell population, the method comprising the following steps:

(i) contacting a cell population with a candidate compound, thereby enabling the introduction of said candidate compound into the cells of said cell population,

(ii) cultivating said cell population for a time period sufficient to allow the candidate compound to be effective, and parallel cultivating a control cell population which has not been contacted with the candidate compound,
and

(iii) monitoring cell growth and/or cell properties in said cell population and in the control cell population,

wherein a reduced growth and/or altered cell properties as compared to the control cell population is indicative that the candidate compound is an SGT antagonist which inhibits the propagation of a cell population.

16. The method according to claim 15, the method comprising the additional steps:

(iv) qualitatively and/or quantitatively detecting SGT expression levels in said cell population and in the control cell population, wherein a lower level of SGT expression is indicative of a compound that is a SGT antagonist,
and

(v) determining whether a lower level of SGT expression correlates with a reduced growth and/or altered cell properties of the cell population being contacted with the candidate compound.

17. The method according to claim 15 or 16, wherein the cell population is in the mitotic stage.

18. The method according to any of claims 15 to 17, wherein the cell population is a population of human cells.

19. A method for the preparation of a pharmaceutical composition wherein a SGT antagonist inhibiting the propagation of an undesired cell population is identified according to any of claims 14 to 17, synthesized in adequate amounts, and formulated into a pharmaceutical composition.

20. An in vitro method for inhibiting the propagation of an undesired cell population, the method comprising

(i) introducing an antagonist of SGT into at least one cell of said cell population,

and

(ii) cultivating said cell population for a time period sufficient to allow said SGT antagonist to be effective, thereby inactivating and/or depleting SGT in said cell population,

wherein SGT refers to a polypeptide or nucleic acid which differs not more than 35% from the sequence of SEQ ID NO:1 or SEQ ID NO:2, and wherein the SGT antagonist is selected from the group consisting of a SGT-specific siRNA, a SGT gene antisense molecule, a SGT mRNA specific ribozyme, an antibody against a SGT polypeptide, a SGT-specific aptamer.

21. Use of an SGT antagonist for the manufacture of a medicament for the treatment of a cancer or an autoimmune disease, wherein SGT refers to a polypeptide or nucleic acid which differs not more than 35% from the sequence of SEQ ID NO:1 or SEQ ID NO:2, and wherein the SGT antagonist is selected from the group consisting of a SGT-specific siRNA, a SGT gene antisense molecule, a SGT mRNA specific ribozyme, an antibody against a SGT polypeptide, a SGT-specific aptamer.

22. A medicament containing a SGT antagonist, optionally together with a pharmaceutically acceptable carrier, for the treatment of a cancer or an autoimmune disease, wherein SGT refers to a polypeptide or nucleic acid which differs not more than 35% from the sequence of SEQ ID NO:1 or SEQ ID NO:2, and wherein the SGT antagonist is selected from the group consisting of a SGT-specific siRNA, a SGT gene antisense molecule, a SGT mRNA specific ribozyme, an antibody against a SGT polypeptide, a SGT-specific aptamer.

23. A method for screening candidate compounds for at least one SGT antagonist with the ability to inhibit the propagation of a cell population, the method comprising the following steps:

(i) contacting a cell population with a candidate compound, thereby enabling the introduction of said candidate compound into the cells of said cell population,

(ii) cultivating said cell population for a time period sufficient to allow the candidate compound to be effective, and parallel cultivating a control cell population which has not been contacted with the candidate compound,

and

(iii) monitoring cell growth and/or cell properties in said cell population and in the control cell population,

wherein a reduced growth and/or altered cell properties as compared to the control cell population is indicative that the candidate compound is an SGT antagonist which inhibits the propagation of a cell population, and wherein SGT refers to a polypeptide or nucleic acid which differs not more than 35% from the sequence of SEQ ID NO:1 or SEQ ID NO:2.

24. A method for the preparation of a pharmaceutical composition, wherein a SGT antagonist inhibiting the propagation of an undesired cell population is identified according to claim 23, synthesized in adequate amounts, and formulated into a pharmaceutical composition, and wherein SGT refers to a polypeptide or nucleic acid which differs not more than 35% from the sequence of SEQ ID NO:1 or SEQ ID NO:2.

25. A method for inhibiting the propagation of an undesired cell population, the method comprising

(i) introducing an antagonist of SGT into at least one cell of said cell population,

and

(ii) cultivating said cell population for a time period sufficient to allow said SGT antagonist to be effective, thereby inactivating and/or depleting SGT in said cell population.

26. A method of treating a patient having a disease, which is caused by the propagation of an undesired cell population, the method comprising introducing an antagonist of SGT into said patient.

27. The method according to claim 26, wherein the disease is a cancer or an autoimmune disease.

28. The method according to claim 26 or 27, wherein the antagonist of SGT antagonist is a SGT-specific siRNA.

29. The method according to any of claims 26 to 28, wherein the SGT antagonist is introduced into said patient by using a vector, preferably a retroviral vector.